SOIL Discuss.,
doi:10.5194/soil-2016-40-RC2, 2016

Interactive comment on "Approaches to calibrate *in-situ* capacitance soil moisture sensors and some of their implications" *by* N. A. L. Archer et al.

Anonymous Referee #2

Received and published: 17 September 2016

The manuscript entitled "Approaches to calibrate in-situ capacitance soil moisture sensors and some of their implications" by Archer et al provides a poor evaluation of some calibration approaches for soil moisture sensors. In the revision process some critical concerns have been detected:

- The innovation of the study is very limited; the calibration and validation of soil moisture sensors is a topic very well analyzed from long time ago. In fact, some publications related with this topic have been included by the authors in the introduction section but later, in the discussion section these were not considered. Equally, the consideration of disturbed and undisturbed soil for calibration has been analyzed previously in numerous studies. Thus, the major results obtained in this study are well-known for the scientific community. For these reasons the authors have to describe the main advances generated with this study and to carry out a full comparison with the previously

Printer-friendly version

Discussion paper

obtained results in other studies.

- The description of the methodology considered in the study is too long and descriptive. Thus, Section 3 provides a long explanation of general procedures that must be summarized referring to general publications. Even some sections included in Results could be moved to Material and Methods section (such as 4.1. Soil characteristics, or 4.5. Calibration of the soil moisture sensors).

- As opposite to the Material section, the results obtained in the study are very limited, repetitive and non-relevant to build a scientific publication in an international journal. Thus, the main results are concentrated in Section 4.4 and 4.5 and uniquely show volumetric water content curves and a simplified validation procedure.

- Discussion section is very limited. Numerous previous studies related with the topic of this study have not been considered. Here, the advances obtained compared with previous studies must be highlighted.

Additional comments:

Abstract: Some sentences are too long and difficult to understand. Please improve it.

Page 2 / Line 21: The reference Luis Gabriel et al., 2010 is not correct. It must be replaced by Gabriel et al., 2010

Page 2 / Lines 27-36: These paragraphs must be located at Discussion section

Page 4 / Line 5: Some spelling errors have been found (“calibration”)

Page 4 / Line 15: In scientific publications “data” must be considered as plural and then sentences such as “This data was” must be modified.

Page 7 / Lines 23-30: Some descriptive parts must be moved to Material and Method section

Page 7 / Lines 30-33; Page 8 / Lines 5-7: The references to other studies must be

Printer-friendly version

Discussion paper

included in the Discussion section.

Page 9 / Lines 11-17: These sentences must be located at Material and Method section.

Page 9 / Lines 18-19: The procedure for estimating adjusted R2 must be explained in the Material and Method section

Page 11 / Lines 8-11: The references to other studies must be included in the Discussion section.

Page 13 / Line 1: The correct reference is “Gabriel JL, Lizaso . . .”. Please correct.

As conclusion, this manuscript in the current form has serious limitations and then, the recommendation provided by this reviewer is “Reject”.

Interactive comment on SOIL Discuss., doi:10.5194/soil-2016-40, 2016.